



Usable, Suitable, and Scalable COTS Solutions for Defense Radio NetOps

By Alex Vuich, Customer Experience Content Manager

Introduction

Partnership between the Department of Defense (DOD) and commercial industry is vital to the future of national security. The battlefield's increasing reliance on technology, coupled with advancements made by the private sector in recent years, suggest a natural relationship between the two industries; achieving such a relationship is challenging. The DOD needs technology that can keep up with the speed of warfare and outpace adversaries that are devoting unprecedented resources to anticipate and destabilize future warfighting capabilities. The reality, however, is that potential Commercial-Off-The-Shelf (COTS) solutions are not readily usable or suitable in the DOD environment.

Today, the DOD relies on a network of radios and assets for communication and data exchange that require constant monitoring, management, and maintenance. Communication between units and echelons is fragmented and disjointed over vast networks and challenging environments, even under ideal conditions. Most COTS solutions currently on the market that have potential for DOD Radio Network Operations (NetOps) aren't readily usable, suitable, or scalable in the DOD environment. Success for both the defense and commercial industries depends on creating mutually beneficial solutions that easily translate to any environment.

Radio NetOps Overview

Any commercial solution for Radio NetOps must translate to defense in suitability and scale, but also needs to be simple and intuitive. Inherently, COTS solutions can meet these needs while also reducing the number of tools currently in use, decreasing the time to field for new capabilities, and extending the life of existing hardware.

CodeMettle's Radio NetOps capability is a solution for the current and future needs of both industries. A COTS solution already in use, this capability simplifies Radio NetOps by providing unified management of radios and network assets. Developed with modern design principles, feedback from the field, and veteran expertise, the DOD can use the capability now, whether by land, sea, air, or space.

Technical Implications

The CodeMettle Radio NetOps capability is a software product with a mesh-like architecture that functions as the integration point of radio assets. This singular user interface condenses multiple tools into one to provide a simple operational and programmatic view of the current state of the network. Operators can easily push aggregated data to the highest echelon for increased decision-making in real time. In addition, vendors can retrieve data from any echelon or radio from a single location with a robust, open API. Data from radios can be visualized in geographical and logical mappings. Configuration updates can be remotely staged and applied at scale, with Rest APIs to allow external applications to push configs.

CodeMettle continues to refine the capability by working with stakeholders to rapidly prototype new features, enhance usability, and expand supported radio types and waveforms. Rapid prototyping and customer feedback loops ensure our COTS solution is suitable for any environment and reduces the time to field for new capabilities. Partnering with defense customers and veterans enables us to mesh real world feedback with modern design principles to deliver an enhanced user experience that reduces training and cognitive load. We are continuously expanding support for various radio types and waveforms to ensure compatibility with any DOD radio.

Conclusion

The DOD needs adaptable COTS technology now, to face the challenges posed by the increasing speed of warfare and adversarial attempts at subversion. While the relationship between the commercial and defense industries appears to be the natural solution, many commercial technologies are not readily applicable in the DOD environment. Long-term success, both in enterprise and on the battlefield, depends on robust frameworks that easily translate to any environment. CodeMettle is proof that readily available COTS solutions are mutually beneficial and the future for partnership between commercial and defense industries now, with Radio NetOps.

About CodeMettle

CodeMettle was established in 2009 to simplify the management of the most complex networks. With intuitive software products that enable simplified edge to enterprise operations, we synthesize and consolidate fragmented data, processes, and operations into one common operating picture. Our diverse and experienced team is radically transforming engineering and communications by creating innovative solutions that will work for you now and in the future. You can find CodeMettle products powering the most complex networks in telecommunications, media, government, and defense.

For more information or to schedule a demo, contact sales@codemettle.com or visit codemettle.com.

Edge to enterprise, simplified.